



**National Nuclear Security Administration**

**Y-12 Site Office News**

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## **Y-12 LEADING EFFORT TO REDUCE U.S. STOCKPILE OF WEAPONS-USABLE NUCLEAR MATERIAL**

### ***Down blended uranium fuel to be used in TVA nuclear reactors***

**OAK RIDGE, Tenn.** - The Y-12 National Security Complex is not only helping to keep the nation safe, it is also helping the Tennessee Valley Authority by providing an additional source of fuel for the agency's nuclear power reactors.

Y-12 is a key player in a program managed by the National Nuclear Security Administration (NNSA) that takes enriched uranium from Department of Energy sources and provides it to TVA for conversion into low-enriched material to generate electricity. The program helps to reduce the U.S. stockpile of weapons-usable fissile material. Through this effort, the cost to the U.S. taxpayer for storage, security and disposal efforts is dramatically reduced.

The first of several reloads of TVA reactors using fuel from Y-12 and other DOE sites will take place this spring at the Browns Ferry Nuclear Plant near Athens, Alabama. Nuclear Fuel Services in Erwin is processing the material, and AREVA, the parent company of Framatome Advanced Nuclear Products, is fabricating the fuel assemblies for use in TVA nuclear reactors.

Called BLEU, for Blended Low-Enriched Uranium, the project is an excellent example of government, public and private enterprise working together for a common goal. BWXT Y-12, which operates Y-12 for the National Nuclear Security Administration, coordinates the \$500 million program for NNSA's Office of Fissile Materials Disposition.

The BLEU program will eliminate more than 39 metric tons of highly enriched uranium. When blended down to produce fuel for a commercial nuclear power reactor, this material could provide electricity to every household in the United States for 122 days.

For Y-12, it reduces overall safeguards and security requirements, addresses Defense Nuclear Facility Safety Board concerns about storage of legacy material, and improves

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Y-12's storage capacity. It does all this while helping to lower TVA's cost of producing nuclear-generated electrical power. The program also provides some 200 jobs in East Tennessee, including approximately 30 at Y-12.

"Converting this material to reactor fuel is by far the lowest-cost option for dealing with the material, as compared to storage or disposal of the material as waste. Downblending it and burning it as fuel in power reactors eliminates its use for weapons, lowers costs and provides a benefit to the public," said Bill Brumley, Manager of the NNSA's Y-12 Site Office.

The DOE material is being shipped from several locations, including Y-12, the Savannah River Site, Idaho National Laboratory and the BWX Technologies facility in Lynchburg, Va.

"This program benefits the public by putting this material to use rather than disposing of it, as well as helping TVA to reduce the delivered cost of power to our customers from the projected savings in fuel costs," said TVA Chief Nuclear Officer Karl Singer. "This is an excellent example of how federal agencies and contract partners can work together to provide safe, reliable and efficient generation to meet the energy needs of the Tennessee Valley and the nation in an environmentally sound manner."

Established by Congress in 2000, NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear energy. NNSA maintains and enhances the safety, security, reliability and performance of the U.S. nuclear weapons stockpile without nuclear testing; works to reduce global danger from weapons of mass destruction; provides the U.S. Navy with safe and effective nuclear propulsion; and responds to nuclear and radiological emergencies in the U.S. and abroad

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